

CLAIMS :

1. A method for detecting the condition of an organism through the measurement of peptides from a sample of said organism containing high- and low-molecular weight peptides, as an indication of the condition of said organism, wherein

- low-molecular weight peptides are directly detected and characterized; and
- related to a reference.

2. The method according to claim 1, wherein said sample is tissue or fluid samples from said organism, or the organism itself, or combinations thereof.

3. The method according to <sup>claim 1</sup> ~~claims 1 and/or 2~~, wherein said low-molecular weight peptides used for said measurement have a molecular weight of not more than 30,000 Dalton.

4. The method according to <sup>claim 3</sup> ~~claim 3~~, wherein said low-molecular weight peptides used for said measurement have a molecular weight which at least corresponds to that of dipeptides.

5. The method according to <sup>claim 3</sup> ~~claims 3 and/or 4~~, wherein said low-molecular weight peptides used for said measurement have a molecular weight of from 100 to 10,000 Dalton.

6. The method according to <sup>claim 1</sup> ~~at least one of claims 1 to 5~~, wherein said high-molecular weight peptides are separated off prior to measurement of said low-molecular weight pep-

tides, or left unconsidered, in terms of measurement or evaluation, in the recording of the sample.

a 7. The method according to <sup>claim 1</sup> ~~at least one of claims 1 to 6~~, wherein the detection of said low-molecular weight peptides is effected by mass spectrometry.

a 8. The method according to <sup>claim 1</sup> ~~at least one of claims 1 to 7~~, wherein said low-molecular weight peptides are characterized through the measurement of their molecular weights.

a 9. The method according to <sup>claim 1</sup> ~~at least one of claims 1 to 8~~, wherein said sample is divided into different fractions prior to said measurement of the low-molecular weight peptides, and the fractions are measured under different conditions.

a 10. The method according to <sup>claim 1</sup> ~~at least one of claims 1 to 9~~, wherein said organisms include procaryotes, eucaryotes, multicellular organisms, cells from tissue cultures, cells from animals and humans.

a 11. The method according to <sup>claim 1</sup> ~~at least one of claims 1 to 10~~, wherein said sample is derived from genetically engineered or transformed and/or conditioned organisms.

a 12. The method according to <sup>claim 1</sup> ~~at least one of claims 1 to 11~~, wherein the detection of the condition of the organism serves for examining and recording the overall condition of the organism without the need to recur to hypotheses in order to reveal any deviations from a reference condition.

a 13. The method according to <sup>claim 1</sup> ~~at least one of claims 1 to 11~~, wherein the detection of the condition of a transformed organism serves for examining and recording the overall condition of the organism without the need to recur to hy-

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~~potheses in order to reveal any changes of the transformed organism for revealing the occurrence of peptides connected with the transformation which are causally related to metabolic changes.~~

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